

AMENDMENTS TO THE CLAIMS

Claims 1-8. (Canceled)

9. (Currently Amended) An apparatus for incorporating an impurity in a thin film on a substrate arranged in a deposition chamber comprising:
an impurity cell in the deposition chamber, the impurity cell having a pre-determined amount of an impurity in a confined volume;
wherein, the impurity is removed from the impurity cell in a gas phase and is delivered carrier-gas free to the thin film, further wherein the impurity in the gas phase is incorporated into the thin film during thin film deposition.
10. (Original) The apparatus of claim 9, wherein the impurity is selected from the group consisting of carbon and germanium.
11. (Original) The apparatus of claim 9, wherein the thin film comprises epitaxial or polycrystalline silicon.
12. (Original) The apparatus of claim 11, wherein the impurity incorporated into the epitaxial or polycrystalline silicon thin film comprises carbon in a concentration from about 1×10^{13} atoms/cm³ to a maximum solubility of carbon in the silicon thin film.
13. (Original) The apparatus of claim 9, wherein the impurity cell comprises a liquid, a solid, a liquid adhering to a solid or a gas adhering to a solid.
14. (Original) The apparatus of claim 9, wherein the impurity is desorbed from the impurity cell by providing a vacuum surrounding the impurity cell.

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15. (Original) The apparatus of claim 9, wherein the impurity is desorbed from the impurity cell by increasing the temperature of the impurity cell.
16. (Original) The apparatus of claim 9, wherein the deposition chamber comprises a vacuum chamber.

Claims 17-20. (Canceled)

21. (New) The apparatus of claim 9, wherein the confined volume is located entirely within the deposition chamber.
22. (New) An apparatus for incorporating an impurity in a thin film on a substrate arranged in a deposition chamber comprising:
 - an impurity cell in the deposition chamber which introduces a pre-determined amount of an impurity in the deposition chamber;
 - an impurity source coupled to the impurity cell;
 - means for introducing one or more gases into the deposition chamber for forming the thin film, wherein the impurity in the gas phase is incorporated into the thin film; and,
 - means for isolating the deposition chamber from the impurity cell and the impurity source such that the impurity cell can be charged from the impurity source.
23. (New) The apparatus of claim 22, wherein the impurity cell remains in the deposition chamber during charging from the impurity source.
24. (New) The apparatus of claim 22, wherein the impurity cell comprises a liquid, a solid, a liquid adhering to a solid or a gas adhering to a solid.

25. (New) The apparatus of claim 22, wherein the thin film comprises epitaxial or polycrystalline silicon.
26. (New) The apparatus of claim 25, wherein the impurity incorporated into the epitaxial or polycrystalline silicon thin film comprises carbon in a concentration from about 1×10^{13} atoms/cm³ to a maximum solubility of carbon in the silicon thin film.
27. (New) The apparatus of claim 22, wherein the impurity is delivered carrier-gas free to the thin film.
28. (New) The apparatus of claim 22, wherein the impurity is located in a confined volume entirely within the deposition chamber.
29. (New) The apparatus of claim 22, wherein the impurity is desorbed from the impurity cell.
30. (New) The apparatus of claim 29, wherein the impurity is desorbed from the impurity cell by providing a vacuum surrounding the impurity cell.
31. (New) The apparatus of claim 29, wherein the impurity is desorbed from the impurity cell by increasing the temperature of the impurity cell.
32. (New) The apparatus of claim 22, wherein the deposition chamber comprises a vacuum chamber.